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APPLICATION NO.	FILING DATE	FIRST NAME INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/603,025	06/26/2000	Laurence Bigio	LD 11411 GFC 2 0489	3395

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Timothy E Nauman Esq  
Fay Sharpe Fagan Minnich & McKeel LLP  
1100 Superior Avenue 7th Floor  
Cleveland, OH 44114-2516

EXAMINER
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ROY, SIKHA

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 07/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/603,025

Examiner

Sikha Roy

Applicant(s)

BIGIO ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3,9-12,17,19-21 and 23-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,9-12,17,19-21 and 23-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

### Attachments:

- 1) ☒ Notice of References Cited (PTO 892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO 848)
- 3) ☐ Information Disclosure Statement(s) (PTO 1449) Paper No(s)
- 4) ☐ Interview Summary (PTO 412) Paper No(s)
- 5) ☐ Notice of Informal Patent Application (PTO 152)
- 6) ☐ Other

### **DETAILED ACTION**

The Amendment, filed on May 2, 2003 has been entered and is acknowledged by the Examiner.

Cancellation of claims 4-8,13-16,18, 22 and addition of new claims 25-32 have been entered.

### ***Drawings***

The drawing in Fig.5 is objected to because of following.

The reference-emitting angle  $\sigma$  should be replaced by alpha ( $\alpha$ ) as mentioned in the specification (page 6 line 25). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. Referring to claims 26,29 and 31 the specification does not provide antecedent basis for totally reflective coating disposed on greater portion of the first end region than that of the second end region of the ellipsoidal portion of the lamp as claimed. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3,9-12,17,19-21,23-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,660,462 to Bockley et al. in view of U.S. Patent 5,506,471 to Kosmatka et al., U.S. Patent 5,017,839 to Arlt et al. and further in view of U.S. Patent 4,375,605 to Fontana et al.

Regarding claim 1, Bockley et al. disclose (column 8 lines 44-65 Fig. 6) a light source comprising a double-ended lamp envelope 204 made of a light transmissive material, wherein the envelope has an ellipsoidal portion inherently having first and second foci, disposed centrally between tubular portions disposed on opposite ends of the ellipsoidal portion, a filament 202 centrally disposed within the envelope, an infrared reflective filter coating 220 on outside surface of the envelope for transmitting visible radiation and reflecting infrared radiation back to the filament and a totally reflecting coating 222 over a portion of the ellipsoidal portion for reflecting both visible light radiation and infrared radiation back to the filament. Bockley further discloses (column 3 lines 25-36 Fig. 6) that the filament is located on the central axis of the ellipsoidally-shaped envelope and between the first and second optical foci such that the reflective coating reflects radiation emitted by the filament back to the filament.

Bockley implicitly discloses (column 8 lines 55-60) that the interference filter

layers of high and low refractive indices. This has also been evidenced by examination of

al. This interference coating reflects infrared portion of the emitted radiation towards the filament to raise the temperature and improve the overall operating efficiency of the lamp.

Claim 1 differs from Bockley in that Bockley does not exemplify the totally reflecting coating disposed on both ends of the envelope subtending an angle from  $22^\circ$  to  $45^\circ$  from an axis aligned with the filament.

Arlt et al. in the same field of endeavor disclose (column 3 lines 31-35 Fig.1) a coating 8 and 7 applied at the end regions of the envelope, the lateral axis of the lamp and a connection line between the center of the discharge vessel and the inner edge of the coating forms an angle between  $50^\circ$  and  $55^\circ$  and hence the edge of the coating subtends an angle preferably between  $40^\circ$  ( $90^\circ - 50^\circ$ ) and  $35^\circ$  ( $90^\circ - 55^\circ$ ) from the axis aligned with the filament. Arlt et al. further disclose the coating thus quite well covers the space behind the electrodes and so all the radiation emitting in this area can be reflected back to the filament enhancing the efficiency of the lamp.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to have the totally reflecting coating of Bockley et al. disposed such that it subtends an angle between  $40^\circ$  and  $35^\circ$  as taught by Arlt et al. This specific position of the coating provides benefit of well covering the area behind the filament and reflecting all the radiation emitted in this area back to the filament and thus enhancing the efficiency of the lamp.

Fontana et al. in analogous art of ellipsoidal envelope of an incandescent lamp disclose (column 6 lines 11-15) the filament mounted along the major axis and its length fitting within the two foci of the major axis of the envelope. Fontana et al. further disclose (column 5 lines 28-40) that because of this design, a substantial portion of the reflected radiation reaches and hence increases the temperature of the filament producing a greater lumen output.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the length of the filament of Bockley et al., Kosmatka and Arlt fitting between the first and second optical foci of the ellipsoidal portion of the envelope as suggested by Fontana et al. for reflecting a substantial portion of the radiation on the filament and increasing its temperature and thus producing a greater lumen output.

Regarding claims 2 and 3 Bockley et al. disclose a pair of lead wires connected to opposite ends of the filament.

Regarding claim 9 Bockley in view of Arlt disclose the totally reflecting coating is disposed on both ends of the envelope subtending angles between  $40^{\circ}$  and  $35^{\circ}$ .

Regarding claim 10 Bockley et al. disclose all the limitations which are same as claim 1 and additionally the specularly reflective coating made of aluminum, silver (column 5 lines 55-60) directing the radiation back to the filament.

Regarding claim 11 Bockley et al. disclose the totally reflecting coating (70,72 in

Regarding claims 12 and 19 Bockley and Arlt et al. disclose the totally reflecting coating disposed on end regions of the ellipsoisal portion of the envelope and tubular portions extending from the opposite ends of the ellipsoidal portion.

Claim 17 essentially recites the same limitations as of claim 9 and hence is rejected for the same reason.

Regarding claim 20 Bockley et al. disclose (Fig. 1) the light source mounted in a reflector 14 receiving visible light from the light source, the totally reflecting coating matching useful reflecting areas of the reflector.

Claim 21 essentially recites the same limitations as of claim 1 and hence is rejected for the same reason.

Claim 23 essentially recites the same limitations as of claim 12 and hence is rejected for the same reason.

Claim 24 essentially recites the same limitations as of claim 9 and hence is rejected for the same reason.

Regarding claim 25 Bockley discloses (fig. 6 column 8 lines 54-60) the infrared reflective filter 220 is disposed substantially over all of the lamp envelope.

Regarding claim 26 Bockley discloses (Fig. 3 column 5 lines 45-60, column 6 lines 34,35 39-67) the areas of the reflective coating on the lamp envelope surface will be of different pattern depending upon the shape of the reflector in which the lamp capsule is mounted. It is clearly evident from Fig. 3 that the reflective coating 70

Claim 27 essentially recites the same limitations as of claim 12 and hence is rejected for the same reason.

Claim 28 essentially recites the same limitations as of claim 25 and hence is rejected for the same reason.

Claims 29 and 31 essentially recites the same limitations as of claim 26 and hence is rejected for the same reason.

Claim 30 essentially recites the same limitations as of claim 12 and hence is rejected for the same reason.

Regarding claim 32 Bockley discloses (column 5 lines 55-60) that the totally reflective coating is a specular coating made of one of silver and aluminum material.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1,10 and 21 have been considered but are moot in view of the new ground(s) of rejection.

In response to applicants' argument that Kosmatka relates to metal halide arc discharge lamps and is not to be considered as an analogous art, the Examiner respectfully disagrees. It has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. Kosmatka indeed discloses (column 1 lines 5-10,



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portion with a major axis and a filament received inside the envelope substantially aligned with the major axis.

## Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

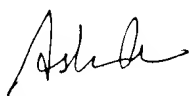
### Contact Information

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

SR  
Sikha Roy  
Patent Examiner  
Art Unit 2879

  
ASHOK PATEL  
PRIMARY EXAMINER